

Training and Evaluation Outline Report

Status: Approved

28 Jan 2015

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Task Number: 05-CO-5002

Task Title: Repair Airfields

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Destruction Notice: None

Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the Fort Leonard Wood, MSCoE foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	ATP 5-19 (Change 001 09/08/2014 78 Pages)	RISK MANAGEMENT http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp5_19.pdf	Yes	No
	FM 5-430-00-1	Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design	Yes	Yes
	TC 5-340	Air Base Damage Repair (Pavement Repair).	Yes	No
	TM 3-34.48-1	THEATER OF OPERATIONS: ROADS, AIRFIELDS, AND HELIPORTS - ROAD DESIGN	Yes	No
	TM 3-34.63	PAVING AND SURFACING OPERATIONS	Yes	No
	TM 5-820-1	SURFACE DRAINAGE FACILITIES FOR AIRFIELDS AND HELIPORTS (AFM 88-5, CHAP 1)	Yes	No
	TM 5-852-7	SURFACE DRAINAGE DESIGN FOR AIRFIELDS AND HELIPORTS IN ARCTIC AND SUBARCTIC REGIONS (AFM 88-19, CHAP 7)	Yes	No

Conditions: The element is directed to repair an airfield in an area of operations. An engineer reconnaissance report and plans containing specific airfield requirements are available from the Operations and Training Officer (US Army) (S3). Equipment, personnel, and materials are available.

Note: The Commander must still determine at what level of training they would want the element to perform. Crawl, walk or run. This can only be determined after consideration as to the units training level.

The Commander prior to evaluating an element in the conduct of the task must determine if it will be conducted in a Live, Virtual, or Constructive environment, additionally it must also be determined which condition as described below that the element will conduct the task. The selection made for this task is at a trained level of proficiency. The commander must determine which of the environments below will best suit the unit and the proficiency level at which the unit is. When conducting crawl or walk level training units should not increase the intensity until the unit has achieved the standards and then unit trainers should include variables that increase proficiency in all conditions.

Note: The condition statement for this task is written assuming the highest training conditions reflected on the Task Proficiency matrix required for the evaluated unit to receive a "fully trained" (T) rating.

Note: Condition terms definitions:

Dynamic Operational Environment: Three or more operational and two or more mission variables change during the execution of the assessed task. Operational variables and threat Tactics, Techniques, and Procedures (TTPs) for assigned counter-tasks change in response to the execution of Blue Forces (BLUFOR) tasks.

Complex Operational Environment: Changes to four or more operational variables impact the chosen friendly COA/mission. Brigade and higher units require all eight operational variables of Political, Military, Economic, Social, Infrastructure, Information, Physical environment, and Time (PMESII-PT) to be replicated in varying degrees based on the task being trained.

Single threat: Regular, irregular, criminal or terrorist forces are present.

Hybrid threat: Diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually benefiting

effects.

Some iterations of this task should be performed in MOPP 4.

Standards: The element repairs the airfield, to include reconnoitering the location, within the specified time in the directive. The airstrip is capable of supporting the specified aircrafts outlined in the directive. The time required to perform this task is increased when conducting it in mission-oriented protective posture (MOPP) 4.

Note: Leaders are defined as the Commander, Executive Officer, First Sergeant, Operations Sergeant, Platoon Leaders, Platoon Sergeants, Squad Leaders, and Team Leaders.

Live Fire Required: No

Objective Task Evaluation Criteria Matrix:

Plan and Prepare			Execute						Assess	
Operational Environment			Training Environment (LV/C)	Training/Authorized % of Leaders Present at	% of Soldiers Present at	External Eval	% Performance Measures 'Go'	% Critical Performance Measures 'Go'	% Leader Performance Measures 'Go'	Task Assessment
CO & BN										
Dynamic and Complex (4+ OE Variables and Hybrid Threat)	Night	IAW unit CATS statement.	>=85%	>=80%	Yes	>=91%	All	>=90%	T	
	Day		75-84%			80-90%		80-89%	T-	
65-74%			75-79%	65-79%	P					
60-64%			60-74%	51-64%	P-					
Static (Single Threat)			<=59%	<=59%	<=50%	<=79%	U			

Remarks: None

Notes: None

Safety Risk: Low

Task Statements

Cue: None

DANGER

Leaders have an inherent responsibility to conduct Risk Management to ensure the safety of all Soldiers and promote mission accomplishment.

WARNING

Risk management is the Army's primary decision-making process to identify hazards, reduce risk, and prevent both accidental and tactical loss. All Soldiers have the responsibility to learn and understand the risks associated with this task.

CAUTION

Identifying hazards and controlling risks across the full spectrum of Army functions, operations and activities is the responsibility of all Soldiers.

Performance Steps and Measures

NOTE: Assess task proficiency using the task evaluation criteria matrix.

NOTE: Asterisks (*) indicate leader steps; plus signs (+) indicate critical steps.

STEP/MEASURE	GO	NO-GO	N/A
+* 1. The company commander prepares an operation order (OPORD) and coordinates with the battalion for construction equipment (especially a grader and roller), tools, and materials.			
+* 2. The company commander ensures that the company establishes work site security.			
+ a. Determines the level of security for the work site and ensures that the company—			
(1) Follows the procedures beginning with step 2b, if the engineer company is working alone or in an isolated area.			
(2) Follows the procedures beginning with step 2d, if a maneuver force is providing security.			
+ b. Ensures that the company occupies an overwatch position of the work site and—			
(1) Covers and conceals the position.			
(2) Guards the work site from the overwatch position.			
+ c. Ensures that a reconnaissance or minesweeping team secures the work site and—			
(1) Checks for a possible enemy ambush at the work site.			
(2) Determines if explosive ordnance disposal (EOD) support is required.			
(3) Finds and coordinated destruction of mines on the work site.			
+ d. Ensures that the company moves in and occupies the position after the area is clear and leaders—			
(1) Reconnoiters tentative fighting positions.			
(a) Stops vehicles in covered and concealed positions.			
(b) Dismounts.			
(2) Designates sectors and general locations for the vehicles and crew-served weapons.			
+ 3. The element repairs the airfield.			
+ a. Ensures that the landing strip longitudinal slope is no greater than 3 percent.			
+ b. Repairs ruts and potholes.			
+ c. Free the landing strip of standing water. Repairs muddy spots by replacing the unsuitable subgrade material.			
+ d. Clears the ditches and culverts of debris, such as branches, leaves, trash, and rocks.			
+ e. Repairs drainage structures, as required.			
Note: This method is applicable only to drainage areas of 100 acres or less. Use the hasty method if the area contains an active stream.			
(1) Determines the runoff using the field estimate $Q = 2 \text{ ARC}$ method			
where—			
Q = total runoff in cubic feet per second			
A = drainage area in acres			
R = rainfall intensity			
C = coefficient factor			
(2) Determines the culvert size and the number of pipes from available resources.			
(3) Repairs the upstream head wall using sandbags, timber, or rock.			
(4) Ensures that the culvert extends downstream a minimum of 61 centimeters beyond the toe of the slope.			
f. Completely clears the landing strip, the taxiway, and the apron of debris that can cause aircraft engine damage.			
g. Removes ice and snow from the landing strip, the taxiway, and the apron.			
+ h. Maintains and repairs the airfield membrane and matting.			
+ 4. The company commander submits status reports to the battalion according to unit standing operating procedure (SOP).			

TASK PERFORMANCE / EVALUATION SUMMARY BLOCK							
ITERATION	1	2	3	4	5	M	TOTAL
TOTAL PERFORMANCE MEASURES EVALUATED							
TOTAL PERFORMANCE MEASURES GO							
TRAINING STATUS GO/NO-GO							

ITERATION: 1 2 3 4 5 M

COMMANDER/LEADER ASSESSMENT: T P U

Mission(s) supported: None

MOPP 4: Sometimes

MOPP 4 Statement: None

NVG: Never

NVG Statement: None

Prerequisite Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-CO-1023	Provide General Engineer Support for Mobility Operations	05 - Engineers (Collective)	Approved
	05-CO-5250	Perform Construction Operations	05 - Engineers (Collective)	Approved

Supporting Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-CO-0007	Prepare an Operation Order (OPORD)	05 - Engineers (Collective)	Approved
	05-CO-0018	Conduct Report Procedures	05 - Engineers (Collective)	Approved
	05-PLT-1008	Conduct Minesweeping Operations	05 - Engineers (Collective)	Approved
	05-PLT-3006	Establish Work Site Security for a General Engineering Mission	05 - Engineers (Collective)	Approved
	05-PLT-5141	Perform Runway/Taxiway Crater Repair	05 - Engineers (Collective)	Approved
	71-CO-5100	Conduct Troop Leading Procedures for Companies	71 - Combined Arms (Collective)	Approved

OPFOR Task(s):

Task Number	Title	Status
71-CO-8502	OPFOR Execute an Ambush	Approved
71-CO-8504	OPFOR Execute a Reconnaissance Attack	Approved

Supporting Individual Task(s):

Step Number	Task Number	Title	Proponent	Status
	052-12N-1004	Interpret Construction Survey Stakes	052 - Engineer (Individual)	Approved
	052-12N-1009	Push Load a Wheel Tractor-Scraper with a Crawler Tractor	052 - Engineer (Individual)	Approved
	052-12T-1500	Determine the Moisture Content of a Soil Using the Oven-Dry Method	052 - Engineer (Individual)	Approved
	052-12T-3401	Review Drawings and Sketches	052 - Engineer (Individual)	Approved
	052-12V-1036	Produce Concrete With an M5 Concrete Mobile Mixer	052 - Engineer (Individual)	Approved
	052-210-1222	Manage Preliminary Site Survey (Topographical/Radial Survey)	052 - Engineer (Individual)	Approved
	052-210-1249	Manage an Airfield Obstruction Survey	052 - Engineer (Individual)	Approved
	052-243-1251	Determine the Plasticity Index of a Soil	052 - Engineer (Individual)	Approved
	052-243-1253	Determine the In-Place Soil Density by the Sand Cone Method	052 - Engineer (Individual)	Approved
	052-243-1254	Determine the In-Place Soil Density and the Moisture Content by the Nuclear Method	052 - Engineer (Individual)	Approved
	052-243-1502	Obtain a Representative Soil Sample	052 - Engineer (Individual)	Approved
	052-243-1503	Determine the Specific Gravity of a Soil	052 - Engineer (Individual)	Approved
	052-243-1506	Classify a Soil Using the Unified Soil Classification System	052 - Engineer (Individual)	Approved
	052-243-3029	Design Concrete Mix	052 - Engineer (Individual)	Approved
	052-252-3055	Direct Employment of an M5 Concrete Mobile Mixer	052 - Engineer (Individual)	Approved
	052-253-1049	Roll Material With a 9-Wheel, Self-Propelled Roller	052 - Engineer (Individual)	Approved
	052-253-1055	Roll Material With a Steel-Wheel Roller	052 - Engineer (Individual)	Approved
	052-253-1059	Pressure Fill a Water Distributor	052 - Engineer (Individual)	Approved
	052-253-1060	Spray an Area Using a Water Distributor	052 - Engineer (Individual)	Approved
	052-253-1206	Backfill an Area Using a Small-Emplacement Excavator (SEE)	052 - Engineer (Individual)	Approved
	052-254-1038	Construct a Stockpile With a Crawler Tractor	052 - Engineer (Individual)	Approved
	052-254-1040	Spread a Stockpile With a Crawler Tractor	052 - Engineer (Individual)	Approved
	052-254-1042	Level Fill Material in a Fill Area With the Angle Blade of a Crawler Tractor	052 - Engineer (Individual)	Approved
	052-254-1049	Rip Material With a Crawler Tractor	052 - Engineer (Individual)	Approved
	052-254-1052	Construct a V Ditch With a Motorized Grader	052 - Engineer (Individual)	Approved
	052-254-1055	Spread Piles of Loose Material With a Motorized Grader	052 - Engineer (Individual)	Approved
	052-254-1058	Construct a Stockpile With a Scoop Loader	052 - Engineer (Individual)	Approved
	052-254-1059	Excavate With a Scoop Loader	052 - Engineer (Individual)	Approved
	052-254-1060	Load a Haul Unit With a Scoop Loader	052 - Engineer (Individual)	Approved
	052-254-1061	Move a Load With a Scoop Loader Clamshell	052 - Engineer (Individual)	Approved
	052-254-1069	Excavate Material From an Area With a Motorized Scraper	052 - Engineer (Individual)	Approved
	052-254-1070	Spread Fill Material With a Motorized Scraper	052 - Engineer (Individual)	Approved
	052-254-1075	Construct a Stockpile With a Deployable Universal Combat Earthmover (DEUCE)	052 - Engineer (Individual)	Approved
	052-254-1076	Spread a Stockpile With a Deployable Universal Combat Earthmover (DEUCE)	052 - Engineer (Individual)	Approved
	052-254-2044	Final-Grade an Area With a Motorized Grader	052 - Engineer (Individual)	Approved
	052-256-3020	Interpret a Construction Print	052 - Engineer (Individual)	Approved
	052-256-3041	Direct Soils Stabilization Operations	052 - Engineer (Individual)	Approved
	052-256-3042	Direct Drainage Operations	052 - Engineer (Individual)	Approved
	052-256-3043	Direct Crawler Tractor Operations	052 - Engineer (Individual)	Approved
	052-256-3044	Direct Motorized Scraper Operations	052 - Engineer (Individual)	Approved
	052-256-3045	Direct Motor Grader Operations	052 - Engineer (Individual)	Approved
	052-256-3046	Direct Compaction Operations	052 - Engineer (Individual)	Approved
	052-256-3047	Direct Scoop Loader Operations	052 - Engineer (Individual)	Approved
	052-256-3048	Direct Utility Tractor Operations	052 - Engineer (Individual)	Approved
	052-256-3052	Interpret a Critical Path Method (CPM)	052 - Engineer (Individual)	Approved
	052-256-3054	Direct Runway/Bomb Crater Repairs	052 - Engineer (Individual)	Approved
	052-256-3055	Direct the Construction of a Helipad	052 - Engineer (Individual)	Approved
	052-256-3065	Direct Equipment Operations Using the Laserplane Leveling System	052 - Engineer (Individual)	Approved
	052-304-7106	Direct the Construction of Combat Roads and Trails	052 - Engineer (Individual)	Approved
	052-304-7109	Direct Airfield Damage Repair	052 - Engineer (Individual)	Approved

	052-306-7101	Direct Construction Site Reconnaissance	052 - Engineer (Individual)	Approved
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Supporting Drill(s): None

Supported AUTL/UJTL Task(s):

Task ID	Title
ART 4.1.7.1	Develop Infrastructure

TADSS

TADSS ID	Title	Product Type	Quantity
No TADSS specified			

Equipment (LIN)

LIN	Nomenclature	Qty
No equipment specified		

Materiel Items (NSN)

NSN	LIN	Title	Qty
No materiel items specified			

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card. .

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination. .